

PATENT CLAIMS

1. Method for detonation of a blasting charge in a fluid environment, and which is placed inside a hollow body, such as in an ignition pellet,
5 characterised in that an ignition pellet is used which is arranged to be deformed under the influence of a number of alternating or pulsating high and low pressures in the surrounding fluid environment, with a detonation triggering unit inside the body being activated under the subsequent contact with the fluid environment as a consequence of the pellet being deformed.
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2. Method according to claim 1, characterised in that the detonation triggering unit comprises a firing pin which is brought to abut a blasting charge and explode this under the influence of an overpressure from the fluid environment.
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3. Method according to claims 1-2, characterised in that a blasting charge is applied which is triggered when it comes into contact with the liquid from the fluid environment.
- 20 4. Method according to claims 1-3, characterised in that the metal in the ignition pellet is compressed and stretched, respectively, to bring about a fatigue fracture or the like in the solid material (from a metal) of the ignition pellet which thereby opens for access to the detonation triggering unit.
- 25 5. Method according to one of the preceding claims, characterised in that the compression and stretching, respectively, are carried out by the counter-effect and co-operating effect, respectively, of a spring in connection to the ignition pellet.
- 30 6. Method according to one of the preceding claims, characterised in that the deformation resulting from the pressure pulses is concentrated to an area of the pellet in that a groove is cut into the solid metal material, in said area a gradually larger crack through the solid material of the wall is provided and which finally gives the fluid access to the
35 hollow space of the ignition pellet.

7. Method according to one of the preceding claims,
characterised in that the ignition pellet is made of metal, such as
aluminium, or copper, or alloys thereof.
- 5 8. Device for an ignition pellet comprising a blasting charge placed inside a
hollow part of the ignition pellet and an appliance which initiates detonation of
the blasting charge on contact with a surrounding fluid environment,
characterised in that an area of the solid wall material of the ignition
pellet comprises means which promotes deformations in the mentioned area
10 when the pellet is subjected to pressure influences from the fluid environment.
9. Device according to claim 8, characterised in that the
deformation promoting means comprises grooves or scores which are cut into
the solid material of the wall.
- 15 10. Device according to one of the claims 8-9, characterised in that
a spring is fixed onto the pellet so that the mentioned means in the form of
grooves or scores lies between the fixing points for the spring onto the pellet.
- 20 11. Device according to one of the claims 8-10, characterised in
that the spring is arranged to promote the deformations by stretching the
ignition pellet after a preceding deforming compression, thereby to provide a
fatigue failure or the like in the ignition pellet solid material which thereby opens
for access to the detonation triggering unit.
- 25 12. Device according to one of the preceding claims 8-11,
characterised in that the detonation triggering unit comprises a firing
pin arranged to collide with the blasting charge and explode this.
- 30 13. Device according to one of the preceding claims 8-12,
characterised in that the blasting charge is arranged to be triggered
when it comes into contact with liquid from the fluid environment
- 35 14. Device according to one of the preceding claims 8-13,
characterised in that the hollow space in the ignition pellet that holds
the blasting charge is filled with gas at atmospheric or lower pressure so that
the pressure variations as a consequence of movements in the cylinder wall are
absorbed and do not become sufficient to drive the firing pin.

15. Device according to one of the preceding claims 8-14,
characterised in that the deformation resulting from the pressure
pulsations is concentrated to an area of the pellet in that a score is cut into the
5 metal, in said area a gradually larger crack through the solid material of the wall
is provided, and which finally gives the fluid access to the hollow space of the
ignition pellet.
16. Device according to one of the preceding claims 8-15,
10 characterised in that the ignition pellet is made from a metal, such as
aluminium or copper, or alloys thereof.
17. Application of an ignition pellet according to the preceding claims to
perforate a pipe wall or to perforate or remove plugs in oil and gas wells,
15 thereby to start production from the reservoir through the pipe.